

CLAIMS

- 1/ A method of injection molding a lens out of thermoplastic synthetic material by means of a mold containing a mold recess, said material being previously melted to a molding temperature higher than or equal to its vitreous transition temperature, the method comprising, for each lens molding cycle, the following steps:
- raising the wall of the mold cavity to a heating temperature higher than or equal to the molding temperature of said material;
 - filling the molding cavity with said material;
 - at the end of filling, increasing the pressure of said material introduced in this way into the molding cavity up to a compacting pressure; and
 - bringing the wall of the molding cavity to a cooling temperature to cool said molded material down to an unmolding temperature below its molding temperature, said cooling temperature being lower than said unmolding temperature;
- wherein the filling of the molding cavity with said material begins before the heating temperature has been reached, and wherein, once both the compacting pressure of said material and the heating temperature of said molding cavity have been reached, they are both maintained for a given length of time.
- 2/ A method according to claim 1, in which the filling of the molding cavity with said material and the raising of the temperature of the molding cavity wall both begin simultaneously.
- 3/ A method according to claim 1, in which the filling of the molding cavity with said material begins while the temperature of the molding cavity wall is being raised.

4/ A method according to claim 3, in which the filling of the molding cavity with said material is started less than 30 s after beginning to raise the temperature of the molding cavity wall.

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5/ A method according to claim 3, in which the filling of the molding cavity with said material is started more than 5 s after beginning to raise the temperature of the molding cavity wall.

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6/ A method according to claim 1, in which the filling of the molding cavity with said material terminates and the rise in the pressure of said material begins before the heating temperature has been reached.

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7/ A method according to claim 6, in which the compacting pressure of said material is reached before the heating temperature has been reached.

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8/ A method according to claim 1, in which the heating temperature lies in the range 30°F to 120°F above the vitreous transition temperature of said material.

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9/ A method according to claim 1, in which the cooling temperature lies in the range 20°F to 100°F below the molding temperature of said material.

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10/ A method according to claim 1, in which the time required to raise the temperature of the molding cavity wall from its cooling temperature to its heating temperature lies in the range 30 s to 150 s, and is preferably about 60 s.

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11/ A method according to claim 1, in which the time required to lower the temperature of the molding cavity wall from its heating temperature to its cooling

temperature lies in the range 30 s to 150 s, and is preferably about 60 s.

- 12/ A method according to claim 1, in which the time
5 during which the compacting pressure of said material and the heating temperature of the mold cavity wall are maintained after they have been reached is greater than 5 s and preferably lies in the range 10 s to 30 s.

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